

A SYSTEM AND METHOD FOR MODELING THREE DIMENSIONAL OBJECTS FROM A SINGLE IMAGE

5

ABSTRACT OF THE DISCLOSURE

A system and method for automatically modeling a three dimensional object, such as a face, from a single image. The system and method according to the invention can construct one or more three dimensional (3D) face models using a single image. Although use of a frontal image simplifies the processing, the system and method according to the invention can also generate a 3D model from a non-frontal image (e.g., an image where the object to be modeled has an out of plane rotation, such a face that is turned to one side to some extent). The system is fully automatic. It is fast compared to the other modeling systems. Furthermore, it is very robust. It can be used to construct personalized models for games, on-line chat, and so on. It can also be used as a tool to generate a database of faces with various poses which are needed to train most face recognition systems.

20